

JC625 U.S. PTO
09/287307
 04/07/99

FORM PTO-1449

 THE UNITED STATES PATENT AND
 TRADEMARK OFFICE

LIST OF PRIOR ART Cited by Applicant as Relevant to Invention entitled: METHOD FOR THE CHARACTERIZATION OF THE THREE-DIMENSIONAL OF PROTEINS EMPLOYING MASS SPECTROMETRIC ANALYSIS AND COMPUTATIONAL FEEDBACK MODELING	ATTY. DOCKET NO. 0268P0342	SERIAL NO. <i>09/287,307</i>
	APPLICANT: NORMAN K. SPROCH	
	FILING DATE	GROUP <i>2123</i>

U.S. PATENT DOCUMENTS

EXAMINERS INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
<i>T.P.</i>	3 7 6 7 9 0 0	10/23/1973	CHAO ET AL.			
<i>T.P.</i>	3 8 4 0 7 4 2	10/ /1974	BELL	250	288	
<i>T.P.</i>	4 1 0 4 2 7 5	08/01/1978	KAUER	260	297	02/77
<i>T.P.</i>	4 2 0 9 6 9 8	06/24/1980	FITE	250	281	02/79
<i>T.P.</i>	4 2 7 1 4 2 5	06/02/1981	WONG	357	72	11/79
<i>T.P.</i>	4 3 6 7 0 7 2	01/04/1983	VOGTLE ET AL.	436	501	09/79
<i>T.P.</i>	4 4 3 6 9 2 3	03/13/1984	PACEY ET AL.	549	352	06/82
<i>T.P.</i>	4 5 3 1 0 5 6	07/23/1985	LABOWSKY ET AL.	250	288	05/83
<i>T.P.</i>	4 5 4 2 2 9 3	09/17/1985	FENN ET AL.	250	288	03/83
<i>T.P.</i>	4 8 3 8 2 7 4	06/13/1989	SCHWEIGHARDT ET AL	128	654	09/87
<i>T.P.</i>	4 8 4 2 7 0 1	06/27/1989	SMITH ET AL.	204	180	04/87
<i>T.P.</i>	4 8 8 5 0 7 6	12/05/1989	SMITH ET AL.	204	299	04/88
<i>T.P.</i>	4 9 3 5 6 2 4	08/19/1990	HENION ET AL.	250	288	06/88
<i>T.P.</i>	4 9 7 7 3 2 0	12/11/1990	CHOWDHURY ET AL.	250	288	01/90
<i>T.P.</i>	4 9 9 9 4 9 3	03/12/1991	ALLEN ET AL.	250	288	04/90
<i>T.P.</i>	5 0 1 5 8 4 5	05/14/1991	ALLEN ET AL.	250	288	06/90
<i>T.P.</i>	5 0 6 8 0 9 8	11/26/1991	SCHWEIGHARDT ET AL	424	9	06/90

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EXAMINERS INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
T.P.	5 0 7 1 5 8 1	12/10/1991	CIPRIANO	252	77	12/90
T.P.	5 0 7 8 0 9 7	12/31/1991	ZARRINN ET AL.	73	61.1C	06/90
T.P.	5 1 1 5 1 3 1	05/19/1992	JORGENSEN ET AL.	250	288	05/91
T.P.	5 1 2 2 6 7 0	06/16/1992	MYLCHREEST ET AL.	250	423	05/91
T.P.	5 1 3 6 1 6 1	08/ /1992	LOGAN	250	293	
T.P.	5 1 5 7 2 6 0	10/20/1992	MYLCHREEST ET AL.	250	423 R	05/91
T.P.	5 1 7 0 0 5 3	12/08/1992	HALL ET AL.	250	288	12/91
T.P.	5 1 7 1 9 9 0	12/15/1992	MYLCHREEST ET AL.	250	288	05/90
T.P.	5 1 9 6 3 4 8	03/23/1993	SCHWEIGHARDT ET AL.	436	173	07/91
T.P.	5 2 2 3 2 2 6	06/29/1993	WITTNER ET AL.	422	100	04/92
T.P.	5 2 4 5 1 8 6	09/ /1993	CHAIT ET AL.	250	288	
T.P.	5 0 0 5 1 4 7	04/02/1991	KRISHEN ET AL.			
T.P.	5 0 6 7 0 9 9	11/19/1991	MCCOWN ET AL.			
T.P.	5 2 1 8 2 9 9	06/08/1993	DUNKEL			
T.P.	5 5 0 4 6 7 2	04/02/1996	HARDIMAN ET AL.			
T.P.	5 5 7 2 1 2 5	11/05/1996	DUNKEL	324	307	06/95
T.P.	5 7 0 8 5 9 3	01/13/1998	SABY ET AL.	364	571.04	05/96

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	FILING DATE	GROUP 2123

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TNSLTN YES/NO

OTHER PRIOR ART (including Author, Title, Date, Pertinent, Etc.)

*	Papao, D.I., Schey, K.L., Knapp, D.R., "Combination Electrospray-Liquid Secondary Ion Mass Spectrometry Ion Source" Anal. Chem 1991, 63, 1658-1660
*	Chowdhury, S.K., Katta, V., Chait, B.T., "An Electrospray-Ionization Mass Spectrometer with New Features" 1990.
*	Odell, B., and Bowyer, U.R., "Solubilisation of Fericytochrome C in Methanol Using a Crown Ether Absorption, Circular Dichroism and EPR Spectral Properties," Biochem, Biophys. Res. Commun, 1985, 127, #3, 828-835.
*	Chowdhury, S.K., Katta V., Chait, B.T., "Probing Conformational Changes in Proteins by Mass Spectrometry," J. Am. Chem. Sec., 1990, 112, 9012-9013.
*	Sowler, B.E., Zaragoza T., York, P., Dong, A., Caughey, W.S., "Destabilizing Effects of Replacing a Surface Lysine of Cytochrome C with Aromatic Amino Acids: Implications for the Denatured State," Biochemistry 1995, 32, 183-190.
*	Shortie, D., Chan, H.S., Dill, K.A., "Modeling the Effects of Mutations on the Denatured States of Proteins," Protein Science, 1992, 1, 201-215
*	Mirza, U.A., Cohen, S.L., Chait, B.T., "Heat-Induced Conformational Changes in Proteins Studied by Electrospray Ionization Mass Spectrometry," Anal. Chem, 1993, 65, 1-6.
*	Sproch, N., and Kruger, T.L., "Construction and Characterization of a Small-Bore Electrospray Ionization Source," J. Am. Soc. Mass Spectrom, December 1993, 4, 964-967.
*	Sproch, N., and Kruger, T.L., "Non-Covalent Interactions of Crown Ether with Cytochrome C Using Electrospray Mass Spectrometry," The 41st ASMS Conference on Mass Spectrometry and Allied Topics, San Francisco, CA, 1993, 904a-904b.

Notes: (*) unavailable for consideration

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*		Sproch, N., and Kruger, T.L., "Analytical Applications of Protein/Crown Ether Complexes in Electrospray Mass Spectrometry," Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy, Abstracts, Chicago, IL, February, 1994, 464P.	
*		Sproch N., and Kruger, T.L., "Methods of Computational Chemistry Applied to Electrospray Mass Spectrometry," 109th Indiana Academy of Science Programs and Abstracts, Purdue University, W. Lafayette, IN, October 1993, p. 31.	
*		Sproch N., and Kruger T.L., "Methods of Computational Chemistry Applied to Electrospray Mass Spectrometry," North Carolina ACS Symposium on Molecular Modeling: Integration of Theory and Experiment, Abstracts, Research Triangle Park, MCNC, NC, October 1993, p. 36.	
*		Sproch N., and Kruger, T.L., "Development of an Electrospray Ionization Source for a Quadrupole Mass Spectrometer," 108th Indiana Academy of Science Programs and Abstracts Bell State University, Muncia, IN, October, 1992, p.33.	
*		Odell, B. and Earlam, G., "Dissolution of Proteins in Organic Solvents using Macrocyclic Polyethers ...", J. Chem. Soc., Chem. Commun., 1985, 359-361.	
EXAMINER		Thaoi Phan	DATE CONSIDERED 09/25/01
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

Notes: unavailable for consideration